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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/762,274

01/23/2004

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EXAMINER

NGUYEN, HUNG THANH

ART UNIT

PAPER NUMBER

2841

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/762,274

Applicant(s)

UZUKA ET AL.

Examiner

HUNG T. NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-9 is/are allowed.
- 6) ☒ Claim(s) 1-5, 10 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/23/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1-5, 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stucke (US 5335146) in view of Durston et al. (US 6154373) and Debord et al. (US 6932617)

Regard to claim 1: Stucke discloses in figures 1 an information-processing device comprising: a crossbar board-back panel assembly comprising a plurality of crossbar-boards (24) each having a switching element (see column 1-3) mounted thereon, and a plurality of back panels (10) detachably connected electrically and mechanically to different sides of each of said crossbar-boards (24), a plurality of motherboards (28) detachably connected electrically and mechanically to each of said back panels (10), each of the plurality of the motherboards (10) having an information-processing semiconductor element (26) mounted thereon, wherein each of said back panels (10) is formed by a plurality of strip panels arranged at positions corresponding to said crossbar-boards (24), said motherboards (28) crossing the plurality of the strip panels , and said strip panels are supplied with different voltages.

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Stucke does not disclose a plurality of strip panels arranged at positions corresponding to said crossbar-boards (24), said motherboards (28) crossing the plurality of the strip panels, and said strip panels are supplied with different voltages.

Durston et al. discloses a plurality of strip panels arranged at positions corresponding to said crossbar-boards (24), said motherboards (28) crossing the plurality of the strip panels, and said strip panels are supplied with different voltages.

Stucke and Durston et al. are analogous art because they are from the same field of endeavor to make high density of electronic devices.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art, to make strip panel over Stucke as taught by Durston et al.

Therefore, it would have been obvious to combine Stucke with Durston et al. for the benefit of exchanging different electronic device.

Regard claim 2: Stucke discloses in figures 1, an information-processing device comprising: a crossbar board-back panel assembly comprising a plurality of rectangular crossbar-boards (24) arranged in parallel, and two opposing back panels (10) detachably connected electrically and mechanically to longitudinal sides of each of said crossbar- boards (24), and a plurality of motherboards (28) detachably connected electrically and mechanically to each of said two opposing back panels, each of the plurality of the motherboards (28) having an information-processing semiconductor element (26) mounted thereon, wherein said two opposing back panels (10) are formed by a plurality of pairs of two opposing strip panels (explained in claim 1) arranged at positions corresponding to each of said rectangular crossbar-boards (24), and said

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crossbar board-back panel assembly (10) includes a plurality of crossbar board-strip panel assemblies (explain in claim 1) piled up on each other (see figure 1), each of said crossbar board-strip panel assemblies (explain in claim 1) comprising one of said rectangular crossbar-boards (see figure 1), and one of said pairs of said two opposing strip panels (explain in claim 1) detachably connected electrically and mechanically to the longitudinal sides of the one of said rectangular crossbar-boards (24).

Regard claim 3: Stucke discloses in figures 1 the information-processing device wherein said crossbar board-back panel assembly (explain in claim 1) further comprises a guide pole arranged upright so that said crossbar board-strip panel (explain above) assemblies are piled up on each other with a hole formed in each of said rectangular crossbar-boards (explain in claim 1) being passed through by said guide pole and said crossbar board-strip panel assemblies (explain in claim 1) are supplied with a voltage via said guide poles.

Stucke does not disclose a guide pole.

However, it is old and well known for one ordinary skill in the art to make the guide pole to keep the assemblies in place and also create a method of supplying power to backplane.

Therefore, it would have been obvious to combine Stucke's invention with the guide pole for the benefit of reducing wires and space.

Regard claim 4: Stucke discloses in figures 1 the information-processing device wherein said crossbar board-back panel assembly (explain in claim 1) further comprises guide rails arranged horizontally so that said crossbar board-strip panel assemblies

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(explain in claim 1) are piled up on each other with upper and under edges of each of said pairs of said two opposing strip panels (explain in claim 1) being inserted into said guide rails and said crossbar board-strip panel assemblies (explain in claim 1) are supplied with a voltage via said guide rails .

Stuke does not disclose the guide rails arranged horizontally so that said crossbar board-strip panel assemblies (explain in claim 1) are piled up on each other with upper and under edges of each of said pairs of said two opposing strip panels (explain in claim 1) being inserted into said guide rails and said crossbar board-strip panel assemblies (explain in claim 1) are supplied with a voltage via said guide rails.

However, it is old and well known for one ordinary skill in the art to make guide rails so that it is easier to insert and to remove.

Therefore, it would have been obvious to combine Stucke's invention with the guide rails for the benefit of inserting/removing assemblies.

Regard claim 5: Stucke discloses in figures1 an information-processing device comprising: a crossbar board-back panel assembly (explain in claim 1) comprising a plurality of crossbar- boards (explain in claim 1) each having a switching element (explain in claim 1) mounted thereon, and a plurality of back panels (explain in claim 1) detachably connected electrically and mechanically to different sides of each of said crossbar-boards (explain in claim 1), a plurality of motherboards (explain in claim 1) detachably connected electrically and mechanically to each of said back panels (explain in claim 1), each of the plurality of the motherboards (explain in claim 1) having an information-processing semiconductor element (explain in claim 1) mounted thereon,

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and hollow heat-radiation components each placed between said crossbar-boards (explain in claim 1), wherein an air moves through inside of said hollow heat-radiation components.

Stucke does not disclose hollow heat-radiation components each placed between said crossbar-boards (explain above), wherein an air moves through inside of said hollow heat-radiation components.

Debord et al. discloses in figures 2-3, the hollow heat-radiation components each placed between said crossbar-boards (explain above), wherein an air moves through inside of said hollow heat-radiation components.

Stucke and Debord et al. are analogous art because they are from the same field of endeavor to make high density circuit boards.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art, to make hollow-heat radiation of Stucke to cool device as taught by Debord et al.

Therefore, it would have been obvious to combine Stucke with Debord et al. for the benefit of reducing heat from device for better circuit performance.

Regard claim 10, 11: Stucke discloses in figures 1 an information-processing device comprising: a crossbar board-back panel assembly (explain in claim 1) comprising a plurality of crossbar-boards (explain in claim 1) arranged in parallel, and a plurality of back panels (explain in claim 1) detachably connected electrically and mechanically to different sides of each of said crossbar-boards (explain in claim 1), and a plurality of motherboards (explain in claim 1) detachably connected electrically and mechanically to

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each of said back panels (explain in claim 1), each of the plurality of the motherboards (explain in claim 1) having an information-processing semiconductor element (explain in claim 1) mounted thereon, wherein said crossbar board-back panel (explain in claim 1) assembly includes a caster provided on the bottom thereof.

Stucke does not disclose the crossbar board-back panel (explain in claim 1) assembly includes a caster provided on the bottom thereof.

However it is old and well known for one ordinary skill in the art to make caster at the bottom so that it is easier to move.

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine Stucke's invention with the caster for the benefit of moving assembly easier.

Allowable Subject Matter

Claim 6-9 are allowed.

Regard claim 6, 9: Stucke discloses in figure 1 an information-processing device comprising: at least one crossbar-board (explain in claim 1) having a switching element (explain in claim 1) mounted thereon, a plurality of back panels (explain in claim 1) detachably connected electrically and mechanically to different sides of said crossbar-board (explain in claim 1), and at least one motherboard (explain in claim 1) detachably connected electrically and mechanically to each of said back panels (explain in claim 1), the motherboard (explain in claim 1) having an information-processing semiconductor element (explain in claim 1) mounted thereon, wherein each of said back panels

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(explain in claim 1) comprises a grid-like frame and smaller panels than each of said back panels (explain in claim 1), the smaller panels arranged in the grid-like frame. Stucke does not disclose a grid-like frame and smaller panels than each of said back panels, the smaller panels arranged in the grid-like frame.

There would be no motivation to make this modification as Stucke teaches a grid-like frame and smaller panels than each of said back panels (explain in claim 1), the smaller panels arranged in the grid-like frame.

Regard claim 8: Stucke discloses in figure 1 an information-processing device comprising: at least one crossbar-board (explain in claim 1) having a switching element (explain in claim 1) mounted thereon, a plurality of back panels (explain in claim 1) detachably connected electrically and mechanically to different sides of said crossbar-board (explain in claim 1), and at least one motherboard (explain in claim 1) detachably connected electrically and mechanically to each of said back panels (explain in claim 1), the motherboard (explain in claim 1) having an information-processing semiconductor element (explain in claim 1) mounted thereon, wherein each of said back panels (explain in claim 1) comprises smaller panels (explain in claim 6) than each of said back panels (explain in claim 1), the smaller panels (explain in claim 6) detachably connected electrically and mechanically to each other voltage.

Stucke does not disclose smaller panels (explain in claim 6) than each of said back panels (explain in claim 1) the smaller panels (explain in claim 6) detachably connected electrically and mechanically to each other voltage.

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There would be no motivation to make this modification as Stucke teaches smaller panels (explain in claim 6) than each of said back panels (explain in claim 1) the smaller panels (explain in claim 6) detachably connected electrically and mechanically to each other voltage.

Relevant Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Stephen (US 5352123) teaches the Switching Midplane, Evan et al. (US 4838798) teaches the High Density Board to Board, Takashima (US 5091822) teaches the Radial Type of Parallel Bus Structure. Stucke (US 5335146) teaches High Density Packaging for Device, Wells (US 4237546) teaches the multi-layered back plane for computer system.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG T. NGUYEN whose telephone number is 571-272-5983. The examiner can normally be reached on 8:00AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KAMMIE CUNEO can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

HN

Hung Thanh Nguyen

September 9, 2005



K CUNEO
SEP 28/11